

FORESTRY

Bachelor of Science degree with a major in Forestry — concentrations in: Forest Hydrology, Forest Operations, Forest Restoration, Forest Soils, and Wildland Fire Management

Minor in Fire Ecology

Minor in Forestry

Minor in Watershed Management

See *Natural Resources* for details on the Master of Science degree.

Department Chair

David F. Greene Ph.D.

Department of Forestry and Wildland Resources

Forestry Building 205
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The Program

Students completing this program will have demonstrated:

- understanding of taxonomy, autecology of trees, plant and wood identification; physiology of trees; ecological concepts, ecosystem processes, structure and function; soil formation, classification, composition and properties; silvicultural principles, stand structure and composition; growth and quality of forests and forest health; fire ecology and use of fire; entomology and pathology; wildlife and fish ecology; plant, soil, water interactions, watershed processes, land measurement, mapping, photogrammetry, remote sensing; sampling theory and methods, statistical literacy; measurement of trees, forests, and forest products; wildlife habitat assessment; measurement of water yields and quality; assessment of non-timber forest values; integrated forest management, multiple-use principles; stand scale management; system and landscape management; forest engineering and road design; harvesting systems; utilization; policy development, sociological influences; administration, environmental regulation; land and resource planning; budgeting, finance, personnel management, cost, and economics
- capable practice of critical thinking; writing; quantitative thinking; public speaking, debate and persuasion; leadership; group cooperation; conflict resolution; time management; professional integration; independent life-long learning; computer literacy and skills
- the attributes of adaptability; integrity; open-mindedness; professional decorum.

Humboldt State University is located in the heart of the coast redwood forest. This environment provides outdoor classrooms for more than half of the forestry courses. Field trips illustrate lecture concepts and teach field techniques.

Excellent on-campus laboratories complement the outdoor lab. Students have access to the college forest, the Schatz Tree Farm, public and private forest lands, and various production centers. Because Humboldt County also has a large forest products industry, Humboldt State is an excellent place to study the resolution of environmental issues with economic concerns.

Students and faculty interact with professional forest managers and researchers of the region both in the classroom and in the field.

Forestry is an incorporative discipline, drawing from the biological, physical, social, and managerial sciences. The curriculum aids in understanding the biological complexities of the forest and the interactions between the forest and social and economic demands.

The program provides sufficient background and depth of education to give a sound basis for professional growth within a broad range of forestry-related careers. Our graduates often start as forest rangers, park rangers, fire fighters, timber cruisers, or surveyors. Some hold staff positions in the federal and state agencies, forest products industry, or with environmental organizations. Graduates go on to build careers in: wildland fire management, forest management, forest protection, park management, watershed management, forest biology, forest engineering, industrial management, resource planning, forest restoration, and research and education.

Visit our webpage at humboldt.edu/fwr.

Preparation

In high school, take a broad background. Biological/physical sciences, mathematics, social sciences, and the arts are helpful.

REQUIREMENTS FOR THE MAJOR

For a description of degree requirements to be fulfilled in addition to those listed below for the major, please see "The Bachelor's Degree" section of the catalog, pp. 66-81., and "The Master's Degree" pp. 82-84.

Core Courses

Lower Division

At least one course in a basic biological science that meets general education requirements and is comparable to BOT 105 (4 units);

At least one course in a basic physical science that meets general education requirements and is comparable to CHEM 107 (4 units);

Plus the following:

ESM 105	(3) Natural Resource Conservation
FOR 130	(3) Dendrology
FOR 131	(3) Forest Ecology
FOR 210	(4) Forest Measurements and Biometry
FOR 222	(2) Forest Health and Protection
FOR 223	(2) Intro to Wildland Fire
FOR 250	(3) Intro to Forest Operations
GSP 101/GSP 101L (2/1)	Geospatial Concepts and Lab
GSP 216	(3) Intro to Remote Sensing
GSP 270	(3) Geographic Information Science (GIS)
SOIL 260	(3) Intro to Soil Science
STAT 108	(3) Elementary Statistics, or
STAT 108i	(3) Elementary Statistics with Integrated Support [Coreq: STAT 8]

Take all lower division courses before beginning upper division work.

Upper Division

ESM 305	(3) Environmental Conflict Resolution
FOR 311	(4) Forest Mensuration & Growth
FOR 331	(3) Silvics — Foundation of Silviculture
FOR 365	(3) Forest Financial Administration
FOR 432	(4) Silviculture
FOR 359	(3) CA & US Forest & Wildland Policy
FOR 471	(3) Forest Administration & Ethics
FOR 479	(3) Forestry Capstone
WSHD 310	(4) Hydrology & Watershed Management

Plus one of the following:

- FISH 300 (3) Intro to Fishery Biology
- GEOL 306 (3) General Geomorphology
- RRS 306 (3) Wildland Resource Principles

Forest Hydrology Concentration

Core courses plus:

Lower Division

- GEOL 109 (4) General Geology
- MATH 105 (3) Calculus for the Biological Sciences & Natural Resources
- PHYX 106 (4) College Physics: Mechanics & Heat, **or**
- PHYX 109 (4) General Physics A: Mechanics

Upper Division

- SOIL 467 (3) Soil Physics
- WSHD 333 (3) Wildland Water Quality, **or**
- WSHD 424 (3) Watershed Hydrology

This program meets the qualifications for "Forester" and for "Hydrologist" in federal employment.

Forest Operations Concentration

Core courses plus:

- FOR 350 (3) Forest Harvesting Systems
- FOR 353 (3) Forest Road Location & Design
- FOR 450 (3) Harvesting Systems Design & Cost Analysis
- FOR 475 (3) Forest Management Decision Making
- FOR 476 (2) Advanced Forest Management

Plus one of the following:

- FOR 423 (3) Wildland Fuels Management
- FOR 431 (3) Forest Restoration
- WSHD 458 (3) Climate Change & Land Use

This program meets the qualifications for "Forester" in federal employment.

Forest Restoration Concentration

Core courses plus:

- FOR 321 (3) Fire Ecology
- FOR 430 (3) Forest Ecosystems
- FOR 475 (3) Forest Management Decision Making
- FOR 476 (2) Advanced Forest Management

Plus two of the following:

- BOT 394 (3) Forest Pathology
- ESM 425 (3) Environmental Impact Assessment

- FOR 350 (3) Forest Harvesting Systems
- FOR 353 (3) Forest Road Location & Design
- FOR 374 (3) Wilderness Area Management
- FOR 423 (3) Wildland Fuels Management
- FOR 431 (3) Forest Restoration
- GSP 370 (3) Intermediate Geographic Information Science (GIS)
- RRS 430 (3) Wildland Restoration & Development
- SOIL 468 (3) Intro to Agroforestry
- WSHD 424 (3) Watershed Hydrology
- WSHD 458 (3) Climate Change & Land Use

This program meets the qualifications for "Forester" in federal employment.

Forest Soils Concentration

Core courses plus:

- GEOL 109 (4) General Geology
- SOIL 360 (3) Origin & Classification of Soils
- SOIL 460 (3) Forest & Range Soils Management

Plus two of the following:

- SOIL 363 (3) Wetland Soils
- SOIL 462 (3) Soil Fertility
- SOIL 465 (3) Soil Microbiology
- SOIL 467 (3) Soil Physics

This program meets the qualifications for "Forester," "Soil Scientist," and "Soil Conservationist" in federal employment.

Wildland Fire Management Concentration

Core courses plus:

- FOR 321 (3) Fire Ecology
- FOR 323 (3) Wildland Fire Behavior
- FOR 423 (3) Wildland Fuels Management
- FOR 476 (2) Advanced Forest Management

Plus two of the following:

- FOR 422 (3) Wildland Fire Use
- FOR 431 (3) Forest Restoration
- FOR 475 (3) Forest Management Decision Making
- GSP 370 (3) Intermediate Geographic Information Science (GIS)
- RRS 370 (3) Wildland Ecology Principles
- WSHD 458 (3) Climate Change & Land Use

This program meets the qualifications for "Forester" in federal employment.

REQUIREMENTS FOR THE MINORS

Fire Ecology Minor

See Fire Ecology

Forestry Minor

Required courses:

- FOR 130 (3) Dendrology
- FOR 131 (3) Forest Ecology
- FOR 210 (4) Forest Measurements and Biometry
- FOR 315 (3) Forest Management

Plus one of the following four courses:

- FOR 302 (3) Forest Ecosystems & People
- FOR 321 (3) Fire Ecology
- FOR 374 (3) Wilderness Area Mgmt.
- FOR 431 (3) Forest Restoration

Watershed Management Minor

See Watershed Management

